List of Contents

Volume 3 Number 1

	Robot system integration into computer-integrated manufacturing		1	Papers G. SPUR, I. FURGAC and U. KIRCHHOFF	G. SPI
	Numerical analysis of the influence of internal num representation on accuracy of coordinate transform industrial robots	r	11	G. DUELEN, J. HELD and U. KIRCHHOFF	
ıfacturing	Descriptive methods for computer-integrated manual and assembly		15	G. SELIGER, B. VIEHWEGER and B. WIENEKE	
ot	The development of an autonomous assembly robo	3 7	23	U. REMBOLD and T. SOETADJI	U. RE
puter	Flexible manufacturing cells and systems with comintelligence		39	H. HAMMER	H. HA
	Robot applications supported by CAD simulation	5 1	55	H. WÖRN and G. STARK	H. W
ler	Developments towards CIM by a machine tool build	3	63	W. VON ZEPPELIN and Ö. S. GANIYUSUFOGLU	
	CIM: competitive edge in manufacturing	7 (77	W. GUTSCHKE and K. MERTINS	W. G
	Some thoughts on integration in CIM systems	9 5	89	HJ. WARNECKE and W. DANGELMAIER	
uring	Applicability of expert systems to flexible manufacture	7 /	97	M. WECK and G. KIRATLI	M. W
	Total CIM concept embracing logistics	5	105	D. REISCH	D. R
systems	Flexible integrated computer-aided manufacturing increase productivity		123	К. Нітz	K. H
	New patents	9 1	129		
	Announcements	5	135		
	Software Survey Section	1 :	I		
der	Robot applications supported by CAD simulation Developments towards CIM by a machine tool build CIM: competitive edge in manufacturing Some thoughts on integration in CIM systems Applicability of expert systems to flexible manufactur Total CIM concept embracing logistics Flexible integrated computer-aided manufacturing increase productivity New patents Announcements	i i i i i i i i i i i i i i i i i i i	55 63 77 89 97 105 123 129	H. WÖRN and G. STARK W. VON ZEPPELIN AND Ö. S. GANIYUSUFOGLU W. GUTSCHKE AND K. MERTINS HJ. WARNECKE AND W. DANGELMAIER M. WECK AND G. KIRATLI D. REISCH	H. W. V. V. O. S. W. G. HJ. W. D. M. W. D. R.

Volume 3 Number 2

Editorial J. HATVANY

139 Intelligent manufacturing systems

Pa	pers
B.	KR

- AMER and H. LIEBOWITZ
- G. SPUR and D. SPECHT
- A. W. J. CHISHOLM
- M. A. MELKANOFF
- L. NEMES
- N. A. DUFFIE and R. S. PIPER
- S.-G. KIM and N. P. SUH
- A. Y. C. NEE, N. BHATTACHARYYA and A. N. Poo
- G. DUELEN, U. KIRCHHOFF, R. BERNHARDT and G. SCHRECK
- F. MAJOR and W. GROTTKE
- T. KISHINAMI, S. KANAI and K. SAITO
- G. SELIGER, B. VIEHWEGER and
- B. SAUVE and A. COLLINOT
- Y. SOLOMENTSEV

B. WIENEKE

- F. JAKOB and D. VERNET
- I. PLANDER
- V. KEMPE
- A. MARKUS
- D. SPECHT

- 141 Intelligent materials processing
- 147 Computer integrated manufacturing in future factories
- 157 The social effects of intelligent manufacturing systems
- 165 Education for intelligent manufacturing systems
- 171 Intelligent interfaces
- 175 Non-hierarchical control of a flexible manufacturing cell
- 181 Knowledge-based synthesis system for injection molding
- V. R. MILACIĆ and V. D. MAJSTOROVIĆ 187 EXMAS-knowledge based system for maintenance of complex mechanical systems
 - 195 Applying AI in jigs and fixtures design
 - 201 Algorithmic representation of work cells and task description for off-line programming
 - 209 Knowledge engineering within integrated process planning systems
 - 215 An integrated approach to CAD/CAPP/CAM based on cell-constructed-geometric-model (CCM)
 - 221 Decision support in design and optimization of flexible automated manufacturing and assembly
 - 229 An expert system for scheduling in a flexible manufacturing system
 - 235 Design and technology, computer science, and CIM implementation
 - 239 Application of expert systems to process control
 - 245 Toward new, intelligent vision systems
 - 257 Vision in industry
 - 263 AI tools for intelligent manufacturing
 - 269 Development of manufacturing production with knowledge based systems
 - 273 New patents
 - I Software Survey Section

Volume 3 Number 3

Papers H. KODATE, K. FUJII and K. YAMANOI	275	Representation of FMS with Petri Net graph and its
		application to simulation of system operation
P. T. CAT	285	Robust adaptive axis control of manipulator
O. Z. Maimon and Y. F. Choong	295	Dynamic routing in reentrant flexible manufacturing systems
V. RAMACHANDRAN and S. VAJPAYEE	301	Safety in robotic installations
S. M. MILLER and S. R. BEREITER	311	Impact of automation on process control decision-making
CM. Hu and Y. ITO	319	Evaluation of system configuration of FMC for metal cutting
Ү. Іто	327	Evaluation of FMS: state of the art regarding how to evaluate system flexibility
T. C. E. CHENG	335	A simulation study of automated guided vehicle dispatching
A. E. Fahim, S. Sankar and R. M. H. Cheng	339	Computer-aided optimal design of a polar-based template digitizer-NC contouring system — I. Synthesis and contouring error minimization
A. E. Fahim, S. Sankar and R. M. H. Cheng	349	Computer-aided optimal design of a polar-based template digitizer-NC contouring system — II. Dynamic analysis
J. ENDO	359	Evaluation vector of FMS for sheet metal processing
M. RAHMAN and V. NARAYANAN	365	An expert system for process planning
	1	Software Survey Section

Volume 3 Number 4

Papers T. SATA	373	Recent developments in computer-integrated manufacturing
		in Japan
S. SAKAUE and K. SUGIMOTO	381	Path generation by rate control of manipulators
Y. Ono	389	Cell control system
Y. NAKAMURA and H. HANAFUSA	395	3D autonomous trajectory control of robot manipulators
H. Kamimoto and K. Endo	409	Development of a complex mixed production system for plain paper copier machines
T. Sata, H. Hiraoka, M. Miki and S. Takata	417	Functions required for advanced flexible manufacturing systems

T. TORII and Y. YAMAMOTO

N. Okino and M. Shono

D. S. MILUTINOVIC, M. P. TURCHAN, F. KIMURA, T. SATA and V. R. MILACIC

List of Contents

423 Shop floor control in computer-integrated manufacturing for large-scale integrated wafer fabrication systems

429 Robot simulator in TIPS/geometric simulator

439 A model-based vision system for industrial parts using a small computer

451 Announcements

i New Patents

I Software Survey Section

